

U.S.S.N. 09/761,486

In The Drawings

Please amend Figs. 4 and 5. A redlined copy is submitted herewith for the Examiner's approval.

In The Claims

Please cancel claims 3, ~~4~~ and 8.

Claim 1 has been amended as follows:

1. (Twice Amended) A method for adjusting the optical properties of an anti-reflective coating (ARC) layer comprising the steps of:

providing a preprocessed semiconductor substrate having a  $\text{SiN}_x$  or a polysilicon layer on a top surface;

depositing a dielectric ARC layer on said  $\text{SiN}_x$  or said polysilicon layer wherein said dielectric ARC layer is deposited of a material selected from the group consisting of  $\text{SiO}_2$  and  $\text{SiONH}$ ; and

annealing said dielectric ARC layer deposited on said semiconductor substrate at a temperature of at least  $400^\circ\text{C}$ .

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[Claim 2 has been amended as follows:]

C1  
concl'd

2. (Amended) A method for adjusting the optical properties of an anti-reflective coating layer according to claim 1 wherein said dielectric ARC layer deposited is SiONH.

[Claim 12 has been amended as follows:]

C2

12. (Amended) A method for adjusting the optical properties of an anti-reflective coating layer according to claim 1 further comprising the step of adjusting said optical properties of the dielectric anti-reflective coating layer to a refractive index (n) between about 2.0 and about 2.5, and an extinction coefficient (k) between about 0.2 and about 0.8.

[Claim 13 has been amended as follows:]

13. (Twice Amended) A method for adjusting the extinction coefficient (k) of a dielectric anti-reflective coating layer by the steps of:

providing a SiN<sub>x</sub> or polysilicon layer covered semiconductor substrate;

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depositing a dielectric anti-reflective coating layer of a material selected from the group consisting of  $\text{SiO}_2$  and  $\text{SiONH}$  on top of said  $\text{SiN}_x$  or said polysilicon layer; and

heating said semiconductor substrate to a temperature between about  $400^\circ\text{C}$  and about  $1,000^\circ\text{C}$  in an environment that comprises at least one of  $\text{N}_2$  or  $\text{O}_2$ .

*C2  
cancel*

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[Claim 17 has been amended as follows:]

*C3*

17. (Twice Amended) A method for adjusting the extinction coefficient ( $k$ ) of a dielectric anti-reflective coating layer according to claim 13 further comprising the step of heating said semiconductor substrate to a temperature between  $400^\circ\text{C}$  and  $700^\circ\text{C}$  in an environment of  $\text{O}_2$ .

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**REMARKS**

Thorough examination and careful review of the application by the Examiner is noted and appreciated.

Claims 1-17 are pending in the application.

Claims 3, 4 and 8 have been cancelled and withdrawn from further consideration by the Examiner.

Claims 1-2, 5-7 and 9-17 stand rejected.